[0047] The term "resource description" may particularly denote data or information describing the resource, in particular with respect to its technical parameters, e.g. size, frequency, bandwidth, spectrum, transport bandwidth, kind of application, kind of service which can be provided by the resource, and so on. For example, while a requesting entity may request a resource of a given bandwidth, e.g. 2 Mbits/s, another corresponding description for the same resource may be the provision of a specific frequency band, e.g. 5 MHz. Thus, the ability of conversion may allow for different descriptions of the resource in the request/offer which at the one hand may improve an initial anonymity of the network entity and on the other hand may allow for an increased number of matchings between offers and requests. In particular, the description of the resources may comprise or may provide an abstract representation of a resource.

[0048] According to an exemplary embodiment of the resource controller the resource is described by one out of the group consisting of: frequency, bandwidth, spectrum, transport bandwidth, broadband wireless best effort service, available services, available applications, transmission capacity, and any combination thereof.

[0049] In addition, those can be further classified into time-wise availability or geographic availability. It should be noted that the time or time window for which the resource is requested or offered for may be a part of the resource description as well. Furthermore, resources can comprise of or may describe an abstracted representation, for example, a request or an offer for a broadband wireless best effort service for a number of concurrent sessions in a geographic area at a given time window. Those abstracted resources may be realized by different combinations of said physical resources, e.g. a combination of different physical transport (ATM, carrier Ethernet of IP-routing) combined with one radio frequency band or with several scattered radio frequency bands. Resource controllers on either side (client/merchant) provide the capabilities to compile abstract resource requests into physical resources, or a combination of physical resources, respectively.

[0050] According to an exemplary embodiment of the resource controller the resource is a communication resource.

[0051] The term "communication resources" may particular denote any resource which is associated with a communication and the maintenance of a communication service, and which has an influence on the communication in and/or performance of a communication network e.g. frequency, bandwidth, services, applications transport, virtual spectra, or the like.

[0052] In the following further embodiments of the method of managing resources will be described. However, the described components and features may also be used in connection with the resource controller, the network, the program element and the computer-readable medium.

[0053] According to an exemplary embodiment of the method the resource managing message includes a resource request and/or a resource offer.

[0054] According to an exemplary embodiment the method further comprises matching a resource offer and a resource request taking into account predetermined policies.

[0055] In particular, the predetermined policies may be transmitted together with the resource managing message and/or may be policies which are defined or negotiated globally or locally in advance. For example, such defined policies may be stored in the database for future access and/or use.

[0056] According to an exemplary embodiment the method further comprises sending a response message in response to the received resource managing message.

[0057] In particular, the response message may include a result of a matching process, e.g. information concerning a corresponding best match, and/or may include information concerning a granted access or non-grant of access, and/or an identifier identifying the first network entity to the second network entity. In case of a non-grant of access a reason for the rejection may be included in the response message. The response message may be sent from the first network entity to the second network entity. For example, a specific resource offer may be included in the response in case the received resource managing message was a resource offer or vice versa.

[0058] According to an exemplary embodiment of the method the resource managing message includes information about a type of resource managing action.

[0059] Examples types for the resource managing (and/or trading) action may be:

"resource auction", wherein the managing (trading) function collects corresponding offers or requests from other network entities until end of the defined period before starting the evaluation via a rating and/or booking engine. The best matching offer/request pair from other operators may be accepted and all other operator offers or requests shall be rejected;

"resource shop", wherein the managing (trading) function evaluates a corresponding offer/request match from other network entities case by case and decides via a rating and/or booking engine to accept or reject the offer or request. As soon as a trade is accepted for the resource, the trade will be closed, i.e. all subsequent offers or requests from other operators are rejected from the resource managing (trading) function.

[0060] Summarizing an exemplary specific embodiment may be based on the idea to introduce a resource controller with a managing function set to manage resources in a network. The resource controller may evaluate and rate network resource requests based on services requirements that are planned to be offered to users of the network or other network entities, e.g. operators. Resources, which are not available but necessary for a planned service, and resources, which are available but unused may be passed to a resource managing or trading function. The resource managing or trading function may decouple resource requests from resource offers, store them in a database while references to resource traders (merchants) and resource consumers (clients) may only be stored in the database, not exposing this information to either side unless those mutually agree on it. Additionally, there may be functionality to continuously verify resource requests to resource demands and to link matching demands to matching offers such that a resource owner (merchant) will be able to deliver a resource to a requesting operator (client). Finally, the resource controller may establish binding contracts between network entities (acting as merchants and clients), it may store the context in case of future liability issues and it may certify contracts for accountability.

[0061] In general the method and resource controller according to the exemplary specific embodiment may pro-